

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently Amended)** A method of forming an optical fiber preform, the method comprising:
 - providing a consolidated glass preform precursor body having an outer surface;
 - depositing a layer of silica soot onto the outer surface of the consolidated glass preform precursor body to form a composite preform comprised of a consolidated glass portion and a silica soot portion; and
 - in a deuterium-exposing step, exposing the composite preform to an atmosphere containing a concentration of ~~a deuterium compound~~ D₂ or D₂O or a mixture of D₂ or D₂O for a time and at a temperature sufficient to cause the ~~deuterium compound~~ D₂ or D₂O to penetrate the consolidated glass portion without entirely pervading the entire consolidated glass portion.
2. **(Currently Amended)** The method of Claim 1 wherein the depositing step further comprises ~~causing a hydrogen compound to penetrate~~ forming a hydroxyl species in the consolidated glass preform precursor body.
3. **(Currently Amended)** The method of Claim 2 wherein at least a portion of the ~~hydrogen compound~~ hydroxyl species in the consolidated glass preform precursor body is exchanged with at least a portion of the ~~deuterium compound~~ D₂ or D₂O in the consolidated glass portion to form OD in the consolidated glass portion.
4. **(Currently Amended)** The method of Claim 1 further comprising, after the depositing step, exposing the composite preform to a ~~chlorine compound containing~~ dehydration atmosphere comprising one or more of Cl₂, CCl₂, SOCl₂, SiCl₄, GeCl₄, and POCl₃.

5. **(Currently Amended)** The method of Claim 4 wherein the ~~chlorine compound-containing~~ dehydration atmosphere further comprises an inert gas.
6. **(Currently Amended)** The method of Claim ~~[[4]]~~ 1 wherein, the composite preform is exposed to a ~~chlorine compound-containing~~ dehydration atmosphere prior to the deuterium-exposing step, wherein the dehydration atmosphere comprises one or more of Cl_2 , CCl_2 , SOCl_2 , SiCl_4 , GeCl_4 , and POCl_3 .
7. **(Original)** The method of Claim 4 wherein the composite preform is exposed to a purge atmosphere comprising an inert gas prior to the deuterium-exposing step.
8. **(Currently Amended)** The method of Claim 4 wherein the composite preform is exposed to a ~~chlorine compound-containing~~ dehydration atmosphere comprising one or more of Cl_2 , CCl_2 , SOCl_2 , SiCl_4 , GeCl_4 , and POCl_3 , and then the composite preform is exposed to a purge atmosphere comprising an inert gas, prior to the deuterium-exposing step.
9. **(Original)** The method of Claim 4 wherein the composite preform is exposed to a purge atmosphere comprising an inert gas after the deuterium-exposing step.
10. **(Currently Amended)** The method of Claim 4 wherein the composite preform is exposed to a ~~chlorine compound-containing~~ the dehydration atmosphere after the deuterium-exposing step.
11. **(Currently Amended)** The method of Claim 4 wherein, after the deuterium-exposing step, the composite preform is exposed to a purge atmosphere comprising an inert gas, and then the composite preform is exposed to a ~~chlorine compound-containing~~ the dehydration atmosphere.
12. **(Currently Amended)** The method of Claim 1 further comprising consolidating the silica soot portion to form a ~~second consolidated glass preform precursor body comprised~~

~~of the glass portion and a second glass portion formed from the silica soot portion ,~~
whereby the composite preform is transformed into a second consolidated glass preform precursor body.

13. **(Currently Amended)** The method of Claim 12 further comprising depositing an additional layer of silica soot onto the second consolidated glass preform precursor body to form a second composite preform and then exposing the second composite preform to D_2 or D_2O repeating the depositing step and the deuterium exposing step.

14. **(Currently Amended)** The method of Claim 13 further comprising heating and drawing the second consolidated glass preform precursor body to a reduced diameter prior to depositing the additional layer of silica soot thereon.

15. **(Canceled)**

16. **(Currently Amended)** The method of Claim 1 wherein the consolidated glass preform precursor body is generally cylindrical about a centerline axis, wherein at least a portion of the consolidated glass preform precursor body has a radial thickness extends to an outer radius $RC1$ measured from the centerline axis, and wherein the concentration less than 0.1 ppm of any OD deuterium compound is present in the consolidated glass preform precursor body at all radii less than about 0.25 $RC1$ is less than 0.1 ppm.

17. **(Currently Amended)** The method of Claim [[1]] 2 wherein less than 0.1 ppm deuterium compound OD is formed by the reaction of deuterium with in the consolidated glass portion at all radii less than about one-fourth the outer radius of the consolidated glass preform precursor body.

18. **(Currently Amended)** The method of Claim 16 wherein ~~less than 0.1 ppm of the deuterium compound~~ the OD concentration is present at all radii less than about 0.5 $RC1$ is less than 0.1 ppm.

19. **(Currently Amended)** The method of Claim 16 wherein ~~less than 0.1 ppm of the deuterium compound~~ the OD concentration is present at all radii less than about 0.75 RC1 is less than 0.1 ppm.

20. **(Canceled)**